



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

**ADVISORY COUNCIL
AIR QUALITY PLANNING COMMITTEE**

AGENDA

COMMITTEE MEMBERS

**EMILY DRENNEN, CHAIRPERSON
HAROLD BRAZIL
WILLIAM HANNA
ROBERT T.P. HUANG, Ph.D.**

**KEN BLONSKI
IRVIN DAWID
JOHN HOLTZCLAW, Ph.D.
KENDAL OKU**

**MONDAY
AUGUST 11, 2008
9:30 A.M.**

4TH FLOOR CONFERENCE ROOM

- 1. Call to Order – Roll Call**
- 2. Public Comment Period**

Public Comment on Non-Agenda Items, Pursuant to Government Code Section 54954.3. The public has the opportunity to speak on any agenda item. All agendas for Committee meetings are posted at the District, 939 Ellis Street, San Francisco, at least 72 hours before a meeting. At the beginning of the meeting, an opportunity is also provided for the public to speak on any subject within the Committee's purview. Speakers are limited to five minutes each.

- 3. Approval of Minutes of June 16, 2008**
- 4. Overview of Air Resources Board AB 32 Climate Change Draft Scoping Plan**

The Committee will receive a presentation by Air District Environmental Planner, Sigalle Michael regarding the Air Resources Board AB 32 Climate Change Draft Scoping Plan.

- 5. Presentation by ClimatePlan on the Air Resources Board AB 32 Climate Change Draft Scoping Plan**

The Committee will receive a presentation from ClimatePlan on ARB's AB 32 Climate Change Draft Scoping Plan.

- 6. Discussion and Consideration of Policy Recommendation Regarding AB 32 Climate Change Draft Scoping Plan**

The Committee will discuss and consider a policy recommendation to the full Council regarding the Air Resource Boards' draft scoping plan.

- 7. Discussion and Consideration of Agenda for Next Meeting**

8. Committee Member Comments/Other Business

Committee members, or staff, on their own initiative, or in response to questions posed by the public, may ask a question for clarification, make a brief announcement or report on his or her own activities, provide a reference to staff regarding factual information, request staff to report back at a subsequent meeting on any matter or take action to direct staff to place a matter of business on a future agenda.

9. Time and Place of Next Meeting – 9:30 a.m., Thursday, October 2, 2008, 939 Ellis Street, San Francisco, CA 94109.

10. Adjournment

CONTACT EXECUTIVE OFFICE - 939 ELLIS STREET SF, CA 94109

(415) 749-5127
FAX: (415) 928-8560
BAAQMD homepage:
www.baaqmd.gov

- To submit written comments on an agenda item in advance of the meeting.
- To request, in advance of the meeting, to be placed on the list to testify on an agenda item.
- To request special accommodations for those persons with disabilities notification to the Clerk’s Office should be given in a timely manner, so that arrangements can be made accordingly.
- Any writing relating to an open session item on this Agenda that is distributed to all, or a majority of all, members of the body to which this Agenda relates shall be made available at the District’s offices at 939 Ellis Street, San Francisco, CA 94109, at the time such writing is made available to all, or a majority of all, members of that body. Such writing(s) may also be posted on the District’s website (www.baaqmd.gov) at that time.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
939 ELLIS STREET, SAN FRANCISCO, CALIFORNIA 94109
(415) 771-6000

EXECUTIVE OFFICE:
MONTHLY CALENDAR OF DISTRICT MEETINGS

AUGUST 2008

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
Advisory Council Air Quality Planning Committee <i>(Meets 2nd Monday Even Month)</i>	Monday	11	9:30 a.m.	4 th Floor Conf. Room
Advisory Council Public Health Committee – <i>(Meets 2nd Wednesday Even Month)</i> - CANCELLED	Wednesday	13	1:30 p.m.	4 th Floor Conf. Room
Board of Directors Regular Meeting <i>(Meets 1st & 3rd Wednesday of each Month)</i> - CANCELLED	Wednesday	20	9:45 a.m.	Board Room
Board of Directors Legislative Committee <i>(Meets 4th Monday of every Month)</i> - CANCELLED	Monday	25	9:30 a.m.	4 th Floor Conf. Room
Board of Directors Budget & Finance Committee <i>(Meets 4th Wednesday of each month)</i> - CANCELLED	Wednesday	27	9:30 a.m.	4 th Floor Conf. Room

SEPTEMBER 2008

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
Board of Directors Regular Meeting <i>(Meets 1st & 3rd Wednesday of each Month)</i> - CANCELLED	Wednesday	3	9:45 a.m.	Board Room
Board of Directors Public Outreach Committee <i>(Meets 1st Thursday every other Month)</i>	Thursday	4	9:30 a.m.	4 th Floor Conf. Room
Advisory Council Executive Committee Meeting <i>(Meets 2nd Wednesday Every Other Month)</i>	Wednesday	10	9:00 a.m.	4 th Floor Conf. Room
Advisory Council Regular Meeting <i>(Meets 2nd Wednesday Every Other Month)</i>	Wednesday	10	10:00 a.m.	4 th Floor Conf. Room
Board of Directors Stationary Source Committee Meeting <i>(Meets 3rd Monday Quarterly)</i>	Monday	15	9:30 a.m.	4 th Floor Conf. Room
Board of Directors Regular Meeting <i>(Meets 1st & 3rd Wednesday of each Month)</i> - CANCELLED	Wednesday	17	9:45 a.m.	Board Room
Board of Directors Climate Protection Committee Meeting <i>(Meets 3rd Thursday Every Other Month)</i>	Thursday	18	9:30 a.m.	4 th Floor Conf. Room
Joint Policy Committee	Friday	19	10:00 a.m. – 12:00 p.m.	MTC 101 - 8 th Street Oakland, CA 94607

SEPTEMBER 2008

Board of Directors Legislative Committee <i>(Meets 4th Monday of the Month)</i>	Monday	22	9:30 a.m.	4th Floor Conf. Room
Board of Directors Budget & Finance Committee <i>(Meets 4th Wednesday of each month)</i>	Wednesday	24	9:30 a.m.	4th Floor Conf. Room
Board of Directors Mobile Source Committee – <i>(Meets 4th Thursday of each Month)</i>	Thursday	25	9:30 a.m.	4th Floor Conf. Room
Board of Directors Executive Committee <i>- (At the Call of the Chair)</i>	Monday	29	9:30 a.m.	4th Floor Conf. Room

OCTOBER 2008

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
Board of Directors Regular Meeting <i>(Meets 1st & 3rd Wednesday of each Month)</i>	Wednesday	1	9:45 a.m.	Board Room
Advisory Council Air Quality Planning Committee <i>(Meets 2nd Thursday Even Month)</i>	Thursday	2	9:30 a.m.	Board Room
Advisory Council Technical Committee <i>(Meets 1st Monday of every even Month)</i>	Monday	6	9:30 a.m.	Board Room
Advisory Council Public Health Committee – <i>(Meets 2nd Wednesday Even Month)</i>	Wednesday	8	1:30 p.m.	Board Room
Board of Directors Regular Meeting <i>(Meets 1st & 3rd Wednesday of each Month)</i>	Wednesday	15	9:45 a.m.	Board Room
Board of Directors Budget & Finance Committee <i>(Meets 4th Wednesday of each month)</i>	Wednesday	22	9:30 a.m.	4th Floor Conf. Room
Board of Directors Mobile Source Committee – <i>(Meets 4th Thursday of each Month)</i>	Thursday	23	9:30 a.m.	4th Floor Conf. Room
Board of Directors Legislative Committee <i>(Meets 4th Monday of the Month)</i>	Monday	27	9:30 a.m.	4th Floor Conf. Room

HI
8/6/08 (8:05 a.m.)
P/Library/Forms/Calendar/Calendar/Moncal

Bay Area Air Quality Management District
939 Ellis Street
San Francisco, California 94109

DRAFT MINUTES

Air Quality Planning Committee
9:30 a.m., Monday, June 16, 2008

1. Call to Order: Chairperson Drennen called the meeting to order at 9:30 a.m.

Roll Call: Harold Brazil, Ken Blonski, Irvin Dawid, William Hanna, Robert Huang, Ph.D., John Holtzclaw, Ph.D., Kendal Oku, and Emily Drennen, Chairperson.

Absent: Kraig Kurucz

2. Public Comment Period. There were none.

3. Approval of Minutes of April 10, 2008: Mr. Blonski moved for approval of the minutes, Mr. Holtzclaw seconded the motion, and the minutes were approved unanimously.

4. Current State and Future Projections of Regional Transit Funding: *Theresa Rommell, Senior Planner/Analyst from Metropolitan Transportation Commission (MTC) and staff from San Francisco Metropolitan Transportation Authority (SFMTA) provided the Committee with a presentation on transit funding.*

Sonali Bose, CFO, San Francisco Metropolitan Transportation Authority (SFMTA) provided the Committee with a presentation, stating that a revenue panel was convened by the Mayor to study ways to fund Muni and review a zonal fare. As part of the study, MTA evaluated three scenarios if the entire system were fare-free; 18%, 48% and 78% increases in ridership. They reviewed the cities of Austin and Denver's fare free systems, a ridership model, high peak data from bus and rail lines, the numbers of additional hours, vehicles, facilities and drivers needed. She provided statistics, scenarios and costs for each of the three scenarios which revealed that the MTA would need to add security to the system, enhance facilities and infrastructure, update their central control system and provide other upgrades.

Ms. Bose said that the MTA has responsibilities for everything on the street--parking, signals, bicycles, pedestrians, transit and soon it will add oversight of taxis. It will look at targeting parking garage rates for long-term parking and move short-term parking to the streets, tie parking to occupancy, and increase meter rates. They are also reviewing alternatives methods to pay for parking and making available parking information available through PDA's, targeted signage, and the Internet. She further discussed Muni's structural deficit of \$150 million and said a draft report is being finalized on ways to fund Muni.

Ms. Bose discussed possibilities for increased funding including additional general fund contributions, new revenues, increases in parking tax funds, the implementation of additional advertising. She also reported that the Regional Zone project for the Transit Consortium was reviewed on June 11th and the report showed there was not enough increased ridership to pursue the project.

Chair Drennen questioned what current revenues come into the MTA from the Air District and asked if there were any other relationships between transit agencies and Air Districts. Ms. Bose said because the

Air District's requirements are specific and their transit projects are so large, they typically use the \$4-\$5 million in grant funds from the Air District to go toward smaller bicycle and pedestrian projects.

Committee Member Dawid questioned relationship between the TA and the MTA, felt that funding various projects like streetscape and pedestrian improvements could be a major source of revenue for MTA, and believed the Portland and Seattle models would be very successful. Ms. Bose discussed roles of the TA and MTA, planning oversight, how the half cent sales tax measure is allocated through the City of San Francisco to fund projects, user and non-user group funding structures, and said until MTA builds up its infrastructure, and that even fare-free transit only in the downtown would be constrained and require additional study.

Committee Member Holtzclaw said he was intrigued with the idea of combining fare free downtown with congestion pricing of the same area, which would probably handle most of the concerns about homelessness on transit. He questioned fares in parking garages which he believed were low, and Ms. Bose said they believe garages were very high and meters were low on streets. MTA wants to encourage getting shoppers onto the streets and longer-term drivers into garages. They will look at pricing and are experimenting with sensors in the ground, pricing, technology and demand.

Committee Member Blonski referred to a start-up private green transit bus system which has been following Muni routes, noting that it incorporates a fleet of vehicles at one of the piers and questioned to what degree the private sector was being asked to provide solutions. Ms. Bose said the revenue panel looked at privatizing fare collection but politically, she believed it would be very difficult to implement, given the impact on operators.

Chair Drennen, on behalf of the Air Quality Planning Committee, expressed thanks to Ms. Bose for her presentation.

Theresa Rommell, Senior Planner/Analyst from Metropolitan Transportation Commission (MTC) distributed a handout of revenue sources for their regional transportation plan and a statistical summary on transit ridership, operating costs, revenues, and performance measures. She discussed and provided definitions of revenue source categories. She also reported that the MTC estimates there will be a total of \$221 billion available for transportation over the next 25 years; however, of that amount \$191 billion has already been committed and trade-off discussions are being held regarding the allocation of the remaining \$30 billion.

Committee Member Holtzclaw acknowledged that MTC receives complaints when presenting information publicly because committed funds are based on decisions made for the half cent sales tax. However, when people are given a list of all projects, they are not given alternatives and many are concerned with calling those committed funds and then not reassessing the entire picture under the global warming scenario. Ms. Rommell agreed and said often, when a half-cent sales tax measure is passed there is already an expenditure plan tied to it, but MTC does not have any discretion of what is held in those expenditure plans. And, to re-evaluate what is in those plans would take some sort of voter initiative.

Committee Member Holtzclaw questioned if MTC was looking at an alternative that is more transit and smart growth-oriented and one that addresses global warming and the need to reduce vehicle miles traveled. Ms. Rommell said they have been formulating different scenarios that go toward fulfilling different priorities and this will be part of the trade-off discussions in upcoming months. She said there is also talk of HOT lane revenue and how those can go toward regional priorities.

Committee Member Holtzclaw said another place for advocacy is TEA-4 (successor to ISTEA and the two following surface transportation acts) which will be renewed next year, given a new administration

that recognizes global warming. Ms. Rommell agreed and discussed her recent visit to Washington where discussion occurred on how to affect transportation specifically with the re-authorization, and she believed a better streamlined funding process was needed by the federal government.

Ms. Rommell referred to the statistical summary on page 4; Region-Wide Transit Systems and said fare box accounts for 20% in total regional revenues. The rest come from TDA, STA, federal transit grants, county sales tax, and other grant funding which she said could be found on various city transit agency websites. She distributed the "ABCs of MTC" booklet and agreed to return in the future with additional information, as requested.

Chair Drennen questioned how the Air District currently fits into the funding picture for transit regionally, and Ms. Rommell said approximately \$300 million over a 25-year period is derived from AB 434 funds, most of which are used by individual jurisdictions and transit agencies. She was not aware of other jurisdictions where Air Districts provided funding for transit.

Committee Member Dawid said some would argue that transit eats up three-quarters of both regional and local transportation budgets, and Ms. Rommell agreed and said approximately 60% goes toward supporting transit to fund capital. One of their goals at MTC is to make transit more efficient, less expensive and a course for achieving this might be to consolidate some of the smaller transit agencies in the region.

Committee Member Holtzclaw believed this did not compare the total cost of the system, as there are many subsidies to driving such as parking, health care, insurance and congestion costs. He believed there should be a multiplier effect and lumping together all costs into the same category if comparing cars to transit.

Committee Member Brazil referred to Page 9 of the Statistical Summary and questioned if there were any performance threshold requirements for transit operators. Ms. Rommell said fare box recovery is one requirement for operators to receive funding. Some requirements vary and those who do not meet the requirement are allowed to go through a performance improvement process in order to allow them an opportunity for correction.

Chair Drennen referred to increased fares, cuts in service and the need for balanced budgets, and questioned what model was used by operators given constrained budget conditions. Ms. Rommell said for the RTP on the capital side, in order to replace buses and ensure a well-run system, they have identified a deficit of \$21 billion over the next 25 years. Therefore, when vehicles need replacement there will not be sufficient funding. On the operating side, it is not quite as dire but there are projected deficits over the 25 year period of about \$4-5 billion.

She said opportunities arise such as the spill-over funding operators received which was significant in 2006/07; however, most of this went towards filling the prior deficit. Now with the State's budget cuts to transit funding, operators are right back where they were so there will constantly be deficits where fares or services will be affected.

Chair Drennen questioned options other than a gas tax, and Ms. Rommell said the gas tax would provide about \$3 billion over a 10-year period which would be the most significant, but a secondary tax could be another bridge toll. She said there is a lot of controversy over the expansion of HOT lanes because where the revenues are generated may not be where they should be spent, and MTC estimates getting over \$5 billion net over a 25 year period for HOT lanes.

Chair Drennen, on behalf of the Air Quality Planning Committee, thanked Ms. Rommell for her presentation.

5. Discussion of Air District Fees from Vehicle Registration: *The Committee received a presentation on Air District fees from vehicle registration.*

David Wiley, Supervising Environmental Planner, provided a presentation and information on motor vehicle registration fees received by the Air District from surcharges. Two sources which are dictated by legislation include \$4 for AB 434; Transportation Fund for Clean Air, and \$2 for AB 923; the Mobile Source Incentive Fund.

Regarding AB 434, Transportation Fund for Clean Air projects eligible under law include:

- Purchase or lease of clean air vehicles;
- Vehicle-based projects, i.e., retrofits and repowers of heavy-duty diesel vehicles, alternative fuels, and advanced technology demonstrations;
- Shuttle and feeder bus service to train stations;
- Ridesharing programs to encourage carpool and transit use;
- Arterial management improvements;
- Smart growth;
- Transit information systems;
- Bicycle facility improvements;
- Demonstrations in telecommuting and congestion pricing;
- Smoking vehicle program;
- Vehicle buy-back programs.

Regarding AB 923, Mobile Source Incentive Fund, projects eligible under law include:

- Engine-based projects eligible under the Carl Moyer Program;
- Certain agricultural source projects;
- Purchase of school buses;
- Accelerated vehicle retirement or repair program.

Committee Members confirmed with Mr. Wiley that the \$4 fee brings in \$25 million annually and 40% is sent directly to the Congestion Management Association and spent on various expenditure plan categories. The \$2 fee brings in \$12 million annually and 60% of this is administered by the Air District which goes into matching funds, the Vehicle Retrofit Program, the Carl Moyer Program, the Smoking Vehicle Program and other programs.

Committee Member Dawid said Chair Drennen was referring to a statewide registration fee as opposed to a surcharge which would be best addressed on a statewide level as opposed to locally being added on. He noted that the State of Washington has a weight-based, tiered registration fee whereas California's fee is based on the value of the vehicle, and there is also a flat registration fee for about \$30-\$40 which the State charges. He referred to the AB 923 funds and said Los Angeles is using a remote sensing device for high-emitting vehicles as they enter freeways. Mr. Wiley said the Air District has no current plans to implement remote sensing devices, agreed it was being reviewed in the south coast heavily and is a significant technology investment.

Committee Member Dawid confirmed that in the last fiscal year, \$800,000 went toward funding the Smoking Vehicle Program, \$4-5 million went toward funding the Vehicle Buyback Program, and that the two programs account for one-quarter of the total \$25.5 million for the TFCA.

Committee Member Holtzclaw felt the two programs were formed when the Air District was only concerned about smog and particulates, and he said he thinks Mr. Dawid's argument pertained well to the usual criteria pollutant health concerns much more so than to global warming gases.

Committee Member Brazil referred to TFCA process and the bus retrofit program, said some transit operators were having problems getting monies due to the stringent reporting requirements and do not apply for funding. Mr. Wiley and Ms. Roggenkamp acknowledged the situation and indicated the Air District could try to make the process more streamlined but could not be relieved of its responsibility and accountability of the funds.

Chair Drennen questioned how the mobile source incentive fund came about and if something similar were to be done to address global warming, what would the process look like. Ms. Roggenkamp said it was a standard legislative process and it can be formulated by legislators, the COA or the industry. Chair Drennen confirmed that the \$6 fee was statewide and each District Board must pass a resolution that allows the DMV to sequester the local funds; some are strongly supported by industry groups who see that reducing emissions is the goal and one way to do this is impose a tax on the source.

Committee Member Blonski referred to the TFCA funds and said the East Bay Regional Parks District has many heavy duty diesel vehicles which are extremely difficult to maintain, given retrofit requirements. He questioned if there was a monitoring component to address the impact or efficacy of the retrofit program's efficiency. Mr. Wiley said he has heard of similar concerns of the need for vehicles to build up to a certain temperature in order for the catalysts to operate and if not logged ahead of time, the devices will collect the PM and backup. However, a large majority of them operate well and achieve reductions. Ms. Roggenkamp acknowledged that the issue was being discussed, manufacturers are alerted when difficulties arise and technology is advancing which will address problems with new devices.

Committee Member Blonski reported that the Burlington Northern/Santa Fe Railroad has an entire series of new, efficient locomotives and Mr. Bunger discussed the development and testing of the new engines by Union Pacific and said ideas are evolving that seek to improve railroad efficiencies and operations.

Committee Member Dawid further discussed smog abatement fees and AB 118 funds, an added statewide surcharge which is an index gas tax based on the retail price or a flat registration fee. From the Committee's perspective it may be beneficial to look at a vehicle registration surcharge as opposed to looking at the actual registration itself, strictly regional or statewide.

Chair Drennen summarized the discussion, stating the Committee heard presentations on HOT lanes, and that there seemed to be some policy issues that have not been addressed on a regional level, including how money is raised and spent as well as equity issues. She further summarized that the Committee has interest in developing policy recommendations on this topic that would eventually go to the Advisory Council and then onto the Board of Directors.

Chair Drennen further summarized that the Committee heard about some of the difficulties the SFMTA have experienced with their transit funding, and how the Air District receives transportation monies from the region. She questioned if there was interest in moving forward to marrying those two--increased regional transit funding from Air District-led fees or other measures such as vehicle license fees or surcharges.

Committee Member Dawid said he believed AB 434 funds are very low, and said that vehicle buy-back is the largest percentage of the registration surcharge and also the most effective measure. He felt monies were best being used the way they are—in trying to clean up existing roads. He also thought HOT lanes present a great potential for funding public transit and there is a real nexus; however, his only concern is that the Air District is not an advisory body to a transit agency.

Chair Drennen said that she sees one potential committee work product which would be an Air District policy on HOT lanes and congestion pricing. She questioned if there was interest pursuing an additional

work product to find more funds that could be spent on transit. Committee Member Holtzclaw said he would be supportive of looking at a policy statement coming from the Committee to support congestion pricing, including how the Air District could fund projects and where that money would be spent. Committee Member Blonski suggested first identifying the pros, cons and benefits of such a policy, but voiced support for such a policy.

The Committee voiced interest in reviewing a policy statement to support congestion pricing, and Chair Drennen suggested a presentation be scheduled for the next meeting in August relating to transportation pricing and HOT lanes, that the Committee receive more clarity on types of HOT lanes and congestion pricing projects, how they increase and decrease air quality and how the Air District would determine funding for such projects.

6. Committee Member Comments/Other Business - None

7. Time and Place of Next Meeting: 9:30 a.m., August 11, 2008 – 939 Ellis Street, San Francisco, CA 94109.

Chair Drennen confirmed with Committee members that the second Monday of the month was the preferred meeting date, and the next meeting would be held on August 11, 2008.

Committee Members discussed the proposed High Speed Rail Initiative on the November ballot, supported review of information on pollution or CO₂ emissions per passenger mile for rail or air and recommended evaluating the High Speed Rail Initiative in order to arrive at a recommendation for the Advisory Council in September, prior to the November election. They also recommended that the August agenda include the crafting of a HOT lanes and Congestion Pricing policy statement, and Committee members Holtzclaw, Hanna and Blonski agreed to meet as an Ad Hoc Committee to draft a resolution on the High Speed Rail Initiative to be agendized for review and recommendation to the full Advisory Council at their September 10, 2008 meeting.

8. Adjournment: 11:48 a.m.

/s/ Lisa Harper
Clerk of the Boards

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Advisory Council Air Quality Planning Committee

From: Emily Drennen, MPA
Chairperson

Date: August 5, 2008

Re: Presentation and Discussion on the Air Resources Board AB 32 Climate
Change Draft Scoping Plan

RECOMMENDED ACTION

Not applicable. The Committee will receive a presentation and hold discussions on the Climate Change Draft Scoping Plan prepared by the California Air Resources Board pursuant to AB 32.

DISCUSSION

Air District Environmental Planner, Sigalle Michael, will provide a presentation to the Committee on the Climate Change Draft Scoping Plan, and will review approaches for implementing AB 32, discuss measures and the Air District's potential roles.

Attached for your review is a copy of the Executive Summary of the June 2008 Discussion Draft of the Climate Change Draft Scoping Plan. Also, attached is Table 2: Recommended Greenhouse Gas Reduction Measures, and Table 22: Estimated Potential Emission Reductions from Measures Under Evaluation (MMTCO₂E in 2020).

A link to the Climate Change Draft Scoping Plan follows:

<http://www.arb.ca.gov/cc/scopingplan/document/draftscopingplan.htm>

BUDGET CONSIDERATION/FINANCIAL IMPACT

No impact.

Respectfully submitted,

Emily Drennen
Chairperson, Planning Committee



CLIMATE CHANGE DRAFT SCOPING PLAN

a framework for change

EXECUTIVE SUMMARY

of the June 2008 Discussion Draft

Pursuant to AB 32, The California Global Warming Solutions Act of 2006

Prepared by
the California Air Resources Board
for the State of California

Arnold Schwarzenegger
Governor

Linda S. Adams
Secretary, California Environmental Protection Agency

Mary D. Nichols
Chairman, Air Resources Board

James N. Goldstene
Executive Officer, Air Resources Board

(This Page Intentionally Blank)



EXECUTIVE SUMMARY

California strengthened its commitment to develop a comprehensive approach to address climate change when Governor Schwarzenegger signed Assembly Bill 32, the Global Warming Solutions Act of 2006 (Núñez, Chapter 488, Statutes of 2006). By requiring in law a reduction in greenhouse gas emissions to 1990 levels by 2020, California set the stage for its transition to a clean energy future. This historic step helped put climate change on the national agenda, and has spurred action by many other states.

The California Air Resources Board (ARB) is the lead agency for implementing AB 32, which set the major milestones for establishing the program. ARB met the first milestones in 2007: developing a list of early actions to begin sharply reducing greenhouse gas emissions; assembling an inventory of historic emissions; and establishing the 2020 emissions limit.

ARB must develop a Scoping Plan to lower the state's greenhouse gas emissions to meet the 2020 limit. This Draft Scoping Plan, developed by ARB with input from the Climate Action Team, proposes a comprehensive set of actions designed to reduce overall carbon emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, and enhance public health while creating new jobs and enhancing the growth in California's economy. ARB will revise this Draft Plan based on continuing analysis and public input, and will take the Proposed Scoping Plan, which will be released in early October, to the Board for consideration at its meeting in November, 2008. The measures in the Scoping Plan adopted by the Board will be developed over the next three years and be in place by 2012.

Reduction Goals

This Draft Plan calls for an ambitious but achievable reduction in California's carbon footprint. Reducing greenhouse gas emissions to 1990 levels means cutting approximately 30 percent from business-as-usual emission levels projected for 2020, or about 10 percent from today's levels. On a per-capita basis, that means reducing our annual emissions of 14 tons of carbon dioxide for every man, woman and child in California down to about 10 tons per person by 2020. This challenge also presents a magnificent opportunity to transform California's economy into one that runs on clean and sustainable technologies, so that all Californians are able to enjoy their rights to clean air, clean water, and a healthy and safe environment.

Significant progress can be made toward the 2020 goal relying on existing technologies and improving the efficiency of energy use. A number of the solutions are "off the shelf," and many – especially investments in energy conservation and efficiency – have proven economic benefits. Other solutions involve improving our state's infrastructure, transitioning

to cleaner and more secure sources of energy, and adopting 21st century land use planning and development practices.

A Clean Energy Future

Getting to the 2020 goal is not the end of the State's effort. According to climate scientists, California and the rest of the developed world will have to cut emissions by 80 percent from today's levels to stabilize the amount of carbon dioxide in the atmosphere and prevent the most severe effects of climate change. This long range goal is reflected in Executive Order S-3-05 that requires an 80 percent reduction of greenhouse gases from 1990 levels by 2050.

Reducing our greenhouse gas emissions by 80 percent will require California to develop new technologies that dramatically reduce dependence on fossil fuels, and shift into a landscape of new ideas, clean energy and green technology. The measures and approaches in this Draft Plan are designed to accelerate this necessary transition, promote the rapid development of a cleaner, low-carbon economy, create vibrant livable communities, and improve the ways we travel and move goods throughout the state. This is the firm commitment that California is making to the world, to its children and to future generations.

Preliminary Recommendation

The preliminary recommendation in this Draft Plan has been developed by ARB staff after considering public comment and input from the Climate Action Team, the Environmental Justice Advisory Committee (EJAC), the Economic and Technology Advancement Advisory Committee (ETAAC), and the Market Advisory Committee (MAC). The Proposed Plan, which will be released in October, 2008, will be based on additional staff modeling and analysis, consideration of public comment on the Draft Plan, recommendations from the advisory committees and other experts. All of the measures in the Proposed Plan will be analyzed for the impacts they will have on the economy, public health and the environment, including effects on low-income communities. The Proposed Plan will have a 45-day comment period before the Board considers adoption at its November meeting. The Scoping Plan, even after Board approval, will remain a *plan*. The measures in the Scoping Plan must be adopted through the normal rulemaking process, with the necessary public input.

Key elements of ARB's preliminary recommendation for reducing California's greenhouse gas emissions to 1990 levels by 2020 include:

- **Expansion and strengthening of existing energy efficiency programs and building and appliance standards;**
- **Expansion of the Renewables Portfolio Standard to 33 percent;**
- **Development of a California cap-and-trade program that links with other WCI Partner programs to create a regional market system;**
- **Implementation of existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard;**
- **Targeted fees to fund the State's long-term commitment to AB 32 administration.**

The complete list of recommended measures is shown in Table 2 of the main text.

A Comprehensive Approach

Meeting the goals of AB 32 will require a coordinated set of solutions to reduce emissions throughout the economy. The preliminary recommendation includes a mix of strategies that combine market mechanisms, regulations, voluntary measures, fees, and other policies and programs to reduce greenhouse gas emissions. Many of the measures complement one another, and provide a comprehensive framework of emissions accounting, tracking, and enforcement. For instance, the Low Carbon Fuel Standard, which reduces the carbon intensity of transportation fuels sold in California, will complement technology-forcing regulations designed to reduce greenhouse gas emissions from cars and trucks.

Improvements in land use and the ways we grow and build our communities will further reduce emissions from the transportation sector.

Many of the measures build on highly successful long-standing practices in California, such as energy efficiency and use of renewable energy resources, that can be accelerated and expanded. Increasing the amount of energy we get from renewable energy sources, including placing solar arrays and solar water heaters on houses throughout California, will be supported by an increase in building standards for energy efficiency. Other measures address the transport and treatment of water throughout the state, lower greenhouse gas emissions from ships in California's ports, and make changes to agricultural and forestry practices. Some measures address ways to safely reduce or recover a range of very potent greenhouse gases, including refrigerants and other industrial gases, that contribute to global warming at a level many times greater per ton emitted than carbon dioxide.

The preliminary recommendation places 85 percent of California's total greenhouse gas emissions under a declining emissions cap by 2020, which will reduce emissions from the covered sectors by almost 30 percent from business as usual. Many of the emission sources covered within this cap-and-trade program are also addressed under other recommended measures, which will account for a majority of the reductions needed to comply with the cap. Sources within the cap-and-trade program will need to meet other regulatory requirements, but will then have the flexibility to reduce emissions further or purchase allowances to cover their compliance obligations. Initial reductions in greenhouse gases, beginning as early as 2010, will be achieved by new and existing regulations and other measures. By 2012, the cap-and-trade program will begin delivering reductions, and by 2020 it will achieve a significant portion of the required reductions under AB 32. Beyond 2020, all the mechanisms, including cap and trade and innovations in technology, will be needed to meet California's long-term greenhouse gas reduction goals.

Working with the Western Climate Initiative

California is working closely with six other states and three Canadian provinces in the Western Climate Initiative (WCI) to design a regional greenhouse gas emission reduction program that includes a cap-and-trade approach. ARB will develop a cap-and-trade program for California that will link with the programs in the other partner states and provinces to create this western regional market. California's participation in WCI creates an opportunity to provide substantially greater reductions in greenhouse gas emissions from throughout the region than could be achieved by California alone. The larger scope of the program also

expands the market for clean technologies and helps avoid leakage, that is, the shifting of emissions from sources within California to sources outside the state. ARB will continue to work with WCI partners to ensure that the final program design provides real and enforceable emission reductions in the region. ARB will also design the California program to meet the requirements of AB 32, including the need to address potential localized impacts, ensure market security (avoid gaming), and ensure enforceability. Significant technical work and consensus building remain before the WCI partners agree on the design of a regional market program. The creation of a robust regional trading system can complement the other policies and measures included in this Draft Plan, and provide the means to achieve the emission reductions needed from a wide range of sectors as cost-effectively as possible.

California's Economy, Environment and Public Health

The Scoping Plan is designed to maximize the total benefits that can accompany the transition to a clean energy economy. California has a long and successful track record of implementing environmental policies that also deliver economic benefits. ARB is continuing to conduct economic modeling, including impacts on low-income households, and evaluation of related public health and environmental benefits for the measures under evaluation. The results of this ongoing analysis will be provided as a supplemental report in the summer of 2008. These results will be used to refine the overall program design, including identifying any economic, environmental and public health safeguards that should be included in the Plan.

Evaluating the Economic Effects

ARB has developed preliminary estimates of the costs and savings of the various measures considered in this Draft Plan. These estimates indicated that the overall savings from improved efficiency and developing alternatives to petroleum will, on the whole, outweigh the costs. This balance is largely driven by current high energy costs and the degree to which measures increase energy efficiency throughout the economy and move California toward ultimately cheaper alternatives to fossil fuels. Summary information on costs is included in the measure descriptions in Appendix C. The economic modeling completed to date is preliminary and does not reflect all measures under evaluation. These estimates will be further refined as the evaluation is completed during the coming months, and ARB will provide a supplement to this Draft Plan with the results of the economic and other evaluations later this summer.

The potential costs of implementing the Plan pale beside the cost of doing nothing. Looking globally, the Stern Review issued by the Treasury of the United Kingdom estimated that "...if we don't act, the overall costs and risks of climate change will be equivalent to losing at least five percent of global [gross domestic product (GDP)] each year, now and forever. If a wider range of risks and impacts is taken into account, the estimates of damage could rise to 20 percent of GDP or more. In contrast, the costs of action – reducing greenhouse gas emissions to avoid the worst impacts of climate change – can be limited to around one percent of global GDP each

year.”¹ Programs to reduce greenhouse gases under AB 32 are a prudent investment in the future, addressing future costs and significant environmental risks.

California is particularly vulnerable to the costs associated with unmitigated climate change. A warming California climate would generate more smoggy days by contributing to ozone formation while also fostering more large brush and forest fires. Continued increases in global emissions at business-as-usual rates would result in California losing 90 percent of the Sierra snow pack, sea level rising by more than 20 inches, and heat wave days increasing three- to four-fold by late in the century.² These impacts will translate into real costs to California. A 12-inch sea level rise by 2050 would translate into \$1.2 billion in levee improvements needed in the San Francisco Bay Delta and the San Joaquin Valley.³ Water supply costs due to scarcity and increased operating costs would increase by as much as \$689 million per year by 2050.⁴ Due to snow pack loss, California’s winter sports businesses would shrink by \$1.4 billion annually by 2050, and lose 14,500 jobs, and many other sectors of California’s economy would suffer. California cannot avert these impacts of global climate change by acting alone, but failing to act now will slow action around the world. The costs of implementing the Scoping Plan will be a necessary investment in California’s future and will spur action in other states and at the federal level.

Providing Savings for Households and Businesses

The Plan’s emphasis on increasing energy efficiency throughout the economy will help mitigate impacts from the likely moderate increases in the prices of energy and fuels that result from moving away from more polluting fuels. More efficient homes and buildings that require less energy to heat and cool, and cars and trucks that use less fuel will result in utility bills and vehicle fuel costs that are below the projected rise in actual fuel prices and energy rates. Revenues generated as part of the program could also be distributed in a way to substantially mitigate any price increases.

The Plan will build on California’s 30-year track record of pioneering energy efficiency programs that have already delivered significant savings to California’s customers. Energy efficiency will continue to provide significant savings that can be reinvested into the California economy. California’s energy efficiency policies, including standards, research and development, and utility programs, have helped hold per capita electricity use constant while in the U.S. as a whole per-capita electricity has use increased by nearly 80 percent since the mid-1970s.⁵ Under the Plan, homeowners can achieve electricity savings between 1,500 and 1,800 kWh per year for older and newer homes, respectively, and over 300 therms of natural gas per

¹ Stern, N. (2006). *The Economics of Climate Change: The Stern Review*. Cambridge, UK: Cambridge University Press.

² *Our Changing Climate: Assessing the Risks to California* (2006), www.climatechange.ca.gov

³ Jeffrey Mount, professor of geology at UC Davis.

⁴ “Climate Warming and Water Supply Management in California,” California Climate Change Center March 2006 CEC-500-2005-195-SF, pp. 13-14.

⁵ Commissioner Art Rosenfeld, California Energy Commission Presentation, “California’s Success in Energy Efficiency and Climate Change: Past and Future,” May 24, 2007.

year. This will be accomplished through improving energy efficiency by 25 percent.⁶ These energy efficiency improvements translate into savings of about \$200 per year for the average homeowner.⁷ Over the past three decades, California consumers have saved more than \$50 billion from appliance and building efficiency policies alone.

Business owners will benefit, too. By upgrading existing facilities to improve energy efficiency, they can save approximately \$0.60 per square foot, reducing per-square-foot energy costs (currently \$1.50 to \$2.50⁸) by as much as 40 percent. Similarly, if commercial buildings in California adopted measures to save water equivalent to current energy efficient building guidelines, buildings would save an additional \$0.10 per square foot annually.⁹

Similar savings can be achieved in the transportation sector. By reducing greenhouse gas pollution from more efficient and alternatively-fueled cars and trucks under California's clean car laws (the Pavley greenhouse gas standards), consumers will save on operating costs through reduced fuel use. Although cars will be marginally more expensive, owners will be paid back with savings over the lifetime of the car, and the average new car buyer will have an extra \$30 each month for other expenditures.

Driving Investment and Job Growth

Addressing climate change also provides a strong incentive for investment in California. California's leadership in environmental and energy efficiency policy has already helped attract a growing share of the nation's venture capital investment in green technologies. As California continues to improve on its environmental record with programs under AB 32, this is very likely to continue. According to statistics from PriceWaterhouseCoopers and the National Venture Capital Association, California's share of national venture capital investment in innovative energy technologies more than tripled from 1995 to 2007. In 2006, approximately 40 percent of all clean tech venture capital investment was made in California, just over \$1 billion.

These investments in building a new clean tech sector also translate directly into job growth. A study by UC Berkeley's Energy and Resources Group and Goldman School of Public Policy found that investments in green technologies produce jobs at a higher rate than investments in comparable conventional technologies.¹⁰ And the National Venture Capital Association estimates that each \$100 million in venture

⁶ Projections based on average electricity and gas usage per California household. California Energy Commission, "Options for Energy Efficiency in Existing Buildings," Publication 400-2005-039-CMF.

⁷ Energy Information Administration (EIA), Annual Energy Review 2006, DOE/EIA-0384(2006) (Washington, DC, June 2007) and supporting databases.

⁸ <http://www.cool-companies.org/profits/>

⁹ <http://www.earth-policy.org/Updates/2007/Update64.htm>

¹⁰ Kammen, D, Kapadia, K. & Fripp, M. "Putting Renewables to Work: How Many Jobs Can the Clean Energy Industry Generate?" Energy and Resources Group/Goldman School of Public Policy at University of California, Berkeley, 2004

capital funding helps create 2,700 jobs, \$500 million in annual revenues for two decades and many indirect jobs.¹¹

Green technology businesses are already contributing to California's economy. According to the California Green Innovation Index (2008), between 1990 and 2006 green technology businesses in California grew by 84 percent.¹² Much of this growth came in the solar energy, energy efficiency and green transportation sectors. By creating a policy landscape that favors low-carbon energy and efficient technology, the implementation of AB 32 will accelerate this trend.

Improving Public Health

The Plan will also provide a wide range of public health and environmental benefits anticipated from reducing greenhouse gases. Preliminary analysis indicates that the total economic value associated with public health benefits is likely to be on the order of \$2 billion in 2020. The estimated reduction of combustion-generated soot (PM 2.5) associated with the recommended regulatory measures is 10 tons per day, and the estimated reduction of oxides of nitrogen (a precursor to smog) total 50 tons per day. These reductions in harmful air pollution lead to the following estimated health benefits in 2020:

- 340 fewer premature deaths
- 9,400 fewer cases of asthma-related and other lower respiratory symptoms
- 780 fewer cases of acute bronchitis
- 57,000 fewer work days lost
- 330,000 fewer restricted activity days

State Leadership

California is committed to once again lead and support a pioneering effort to protect the environment and improve public health while maintaining a vibrant economy. Every agency, department and division will bring climate change considerations into its policies, planning and analysis, building and expanding current efforts to green its fleet and buildings, and managing its water and natural resources and infrastructure to reduce greenhouse gas emissions.

In all these efforts, California is exercising a leadership role in global action to address climate change. It is also exemplifying the essential role states play as the laboratories of innovation for the nation. As California has done in the past in addressing emissions that caused smog, the State will continue to develop innovative programs that benefit public health and improve our environment and quality of life.

¹¹ Global Insight, National Venture Capital Association, "Venture Impact 2004: Venture Capital Benefits to the U.S. Economy," 2004

¹² Next 10, "California Green Innovation Index, 2008 Inaugural Issue," 2008, p.48

A Shared Challenge

Californians are already responding to the challenge of reducing greenhouse gases. Over 100 California cities and counties have signed on to the U.S. Conference of Mayors Climate Protection Agreement¹³ and many have established offices of climate change and are developing comprehensive plans to reduce their carbon footprint. Well over 300 companies, municipalities, organizations and corporations are members of the California Climate Action Registry, reporting their greenhouse gas emissions on an annual basis. Many other businesses and corporations are making climate change part of their fiscal and strategic planning. ARB encourages these initial efforts and has set in place a policy to support and encourage other voluntary early reductions.

Successful implementation of AB 32 will depend on a growing commitment by a majority of companies to include climate change as an integral part of their planning and operations. Individuals and households throughout the state will also have to take steps to consider climate change at home, at work and in their recreational activities. To support this effort, the Draft Plan includes a comprehensive statewide outreach program to provide businesses and individuals with the widest range of information so they can make informed decisions about reducing their carbon footprint.

Californians will not have to wait for decades see the benefits of a low-carbon economy. New homes can achieve a near zero-carbon footprint with better building techniques and existing technologies, such as solar arrays and solar water heaters. Many older homes can be retrofitted to use far less energy than they currently consume. A new generation of vehicles, including plug-in hybrids, is poised to appear in dealers' showrooms, and the development of the infrastructure to support hydrogen fuel cell cars continues. Cities and new developments will be more walkable, public transportation will improve, and high-speed rail will give travelers a new, clean transportation option.

That world is just around the corner. What lies beyond is even more exciting. Where will California be in 2050? By harnessing the ingenuity and creativity of our society and sparking the imagination of the next generation, California will make the transition to a clean-energy, low-carbon society and become a healthier, cleaner place to live.

Release of the Draft Scoping Plan is a major milestone in the development of the Proposed Scoping Plan. This summer, ARB will release an evaluation supplement which will provide the results of the economic, environmental and public health evaluations of the Draft Scoping Plan. Throughout the summer, ARB will hold workshops and community meetings statewide to solicit public comment on the Draft Plan and the evaluation supplement. ARB will release the Proposed Scoping Plan in early October for consideration at the November Board meeting. The Proposed Plan will be shaped by the public input on this Draft Plan. Once the Scoping Plan is approved the Board, the State has two years to develop and adopt regulations to implement the Plan. This regulatory development will follow normal rulemaking processes with focused workshops and stakeholder involvement for each measure.

¹³ <http://www.usmayors.org/climateprotection/agreement.htm>

This Draft Plan offers a preliminary recommendation on how best to achieve the goals of AB 32. ARB invites comment and input from the broadest array of the public and stakeholders in the coming months as this Plan is finalized. Your participation will help craft California's framework for the future.

Table 2: Recommended Greenhouse Gas Reduction Measures

Recommended Reduction Strategies	Sector	2020 Reductions (MMTCO ₂ E)
The Role of State Government <ul style="list-style-type: none"> Reduce carbon footprint Set an example 	Various	1-2 ¹⁷
California Cap-and-Trade Program Linked to WCI: Emissions cap of 365 MMTCO ₂ E covering electricity, transportation, residential/commercial and industrial sources by 2020. Shaded reductions contribute to achieving the cap.		
California Light-Duty Vehicle GHG Standards <ul style="list-style-type: none"> Implement Pavley standards Develop Pavley II light-duty vehicle standards 	Transportation	31.7
Energy Efficiency <ul style="list-style-type: none"> Building and appliance energy efficiency and conservation <ul style="list-style-type: none"> 32,000 GWh reduced electricity demand 800 million therms reduced gas use Increase Combined Heat and Power (CHP) electricity production by 30,000 GWh Solar Water Heating (AB 1470 goal) 	Electricity & Commercial and Residential	26.4
Renewables Portfolio Standard (33% by 2020)	Electricity	21.2
Low Carbon Fuel Standard	Transportation	16.5
High Global Warming Potential Gas Measures	High GWP	16.2
Sustainable Forests	Forests	5
Water Sector Measures	Water	4.8 ¹⁸
Vehicle Efficiency Measures	Transportation	4.8
Goods Movement <ul style="list-style-type: none"> Ship Electrification at Ports System-Wide Efficiency Improvements 	Transportation	3.7
Heavy/Medium Duty Vehicles <ul style="list-style-type: none"> Heavy-Duty Vehicle GHG Emission Reduction (Aerodynamic Efficiency) Medium- and Heavy-Duty Vehicle Hybridization Heavy-Duty Engine Efficiency 	Transportation	2.5
Million Solar Roofs (Existing Program Target)	Electricity	2.1
Local Government Actions and Regional GHG Targets	Land Use and Local Government	2
High Speed Rail	Transportation	1
Landfill Methane Control	Recycling & Waste	1
Methane Capture at Large Dairies	Agriculture	1 ¹⁹
Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	Industrial	TBD
Additional Emissions Reduction from Capped Sectors		35.2
Total Reductions		169

¹⁷ ARB is evaluating emission reduction estimates for this measure, and therefore are not counted in the total.

¹⁸ GHG reductions from the water sector may already be incorporated in the 2020 forecast. They are not currently counted toward the 2020 goal. ARB will work with the appropriate agencies to determine whether these reductions are additional.

¹⁹ Because the emission reductions from this measure are not required, they are not counted in the total.

**Table 22: Estimated Potential Emission Reductions from
Measures Under Evaluation
(MMTCO₂E in 2020)**

Measure Description	Reductions
Feebates for New Vehicles	2-6
Congestion Pricing	up to 1
Pay-As-You-Drive	up to 1
Indirect Source Rules for New Development	up to 1
Programs to Reduce Vehicle Trips	up to 1
Electricity Energy Efficiency (Up to Additional 8,000 GWh of Reduced Demand) <ul style="list-style-type: none"> • Utility Energy Efficiency Programs • Building and Appliance Standards • Additional Efficiency and Conservation 	up to 4
Million Solar Roofs (including New Solar Homes Partnership) <ul style="list-style-type: none"> • Up to 5,000MW Total Installation by 2020 	up to 1
Reduce Coal Generation by up to 13,000 GWh	up to 8*
Natural Gas Energy Efficiency (Up to Additional 200 Million Therms of Reduced Demand) <ul style="list-style-type: none"> • Utility Energy Efficiency Programs • Building and Appliance Standards • Additional Efficiency and Conservation 	up to 1
Solar Water Heating (beyond SB 1470 goal)	up to 1
Carbon Intensity Standard for Cement Manufacturers	1.1-2.5
Carbon Intensity Standard for Concrete Batch Plants	2.5-3.5
Waste Reduction in Concrete Use	0.5-1
Refinery Energy Efficiency Process Improvement	2-5
Removal of Methane Exemption from Existing Refinery Regulations	0.01-0.05
Oil and Gas Extraction GHG Emission Reduction	1-3
GHG Leak Reduction from Oil and Gas Transmission	0.5-1.5
Industrial Boiler Efficiency	0.5-1.5
Stationary Internal Combustion Engine Electrification	0.1-1
Glass Manufacturing Efficiency <ul style="list-style-type: none"> • Equipment Efficiency • Use of Recycled Material 	0.1-0.2
Off-Road Equipment	up to 0.5

*Assumes coal generation is replaced by combined cycle gas turbine generation.